



# California Regional Water Quality Control Board

## San Diego Region

**Winston H. Hickox**  
Secretary for  
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**Gray Davis**  
Governor

**TO:** Celeste Cantu  
Executive Director  
State Water Resources Control Board

**FROM:** John Robertus  
Executive Officer  
**SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD**

**DATE:** October 31, 2001

**SUBJECT:** APPLICABILITY AND PROCEDURES FOR ABATEMENT OF CONTAMINANTS UNDER RESOLUTION 92-49 - POLICIES AND CLEANUP AND WATER CODE SECTION 13304

SUPPORTING  
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The Regional Board Chair, Mr. John Robertus, requests an opinion from the Office of Chief Counsel.

request a formal legal review and  
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- Does State Water Board Resolution 92-49 apply to setting cleanup levels for bay bottom contaminated sediments in San Diego Bay?
- If Resolution 92-49 does apply what are the limitations, if any to its application? What discretion does the Regional Board have in designating cleanup levels for bay bottom sediments less stringent than background conditions?
- If Resolution 92-49 does not apply, what standards would apply as a basis for Regional Board cleanup level decisions for bay bottom sediments?

The Regional Board is currently involved in determining remediation strategies and cleanup levels at two shipyards in San Diego Bay: National Steel and Shipbuilding Company (NASSCO) and Southwest Marine. The above issues come up repeatedly during cleanup project meetings and workshops with the dischargers and non-governmental organization (NGO) environmental interest groups. We are scheduled to bring a final sediment cleanup level recommendation to the Regional Board for the two shipyards in the first quarter of 2002. The above issues are central to cleanup level decisions the Regional Board will be facing on the shipyard project as well as several toxic hot spot cleanup projects and I would appreciate your analysis and response on these issues by the end of December 2001.

### California Environmental Protection Agency

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NGO environmental interest groups appearing before the Regional Board have taken the position that under Resolution 92-49, the Regional Board must require cleanup of contaminated sediments at NASSCO and Southwest Marine to attain background sediment chemistry level as defined by an off-site reference station. The dischargers, NAASCO and Southwest Marine, argue that Resolution 92-49 applies to water quality and not sediment quality and that in any event attainment of background water quality conditions may not require restoration of background sediment quality conditions.

We have taken the position that under the terms of Resolution No. 92-49, the Regional Board is obligated to have a presumptive cleanup goal to require cleanup to attain background water quality conditions. The Regional Board is authorized to establish a cleanup level other than background water quality conditions, only if the Board determines that it is technologically or economically infeasible<sup>1</sup> to attain background water quality conditions. If the Regional Board makes such a determination, the Board is then required to select a cleanup level that is based on the lowest (i.e. cleanest) levels which are technologically or economically achievable and that will not unreasonably affect present and anticipated beneficial uses of waters of the Region. We have also taken the position that restoration of background sediment conditions as defined by an off-site reference station would be a reasonable approach to restoration of background water quality conditions.

The Resolution 92-49 presumption that cleanup to background water quality conditions is the preferred cleanup goal works well for surface and ground water pollution cleanups where there is a direct correlation between the mass of pollutant removed from the water body and corresponding improvements to water quality and protection of beneficial uses. However this axiom does not necessarily apply when determining appropriate cleanup levels for bay bottom sediment.

Elevated concentrations of pollutants in bay bottom sediments are not necessarily linked to poor water quality. A wide range of physical, chemical and biological factors influence the bioavailability of sediment contaminants and their potential to cause adverse biological effects on the benthic community. These factors include aqueous solubility, pH, affinity for sediment organic carbon, sediment grain size, sediment mineral constituents (oxides of iron, manganese and aluminum), and the quantity of acid volatile sulfides in the sediment. Different sediments can differ by a factor of 10 or more in toxicity for the same total chemical concentration of a pollutant in the sediment. The ability of sediments to retain contaminants over time makes it possible for sediments to have very elevated concentrations of pollutants with water column

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<sup>1</sup> Technological feasibility is determined through an assessment of the available technologies shown to be effective in reducing the pollutant concentrations to the established cleanup levels. Economic feasibility refers to the objective balancing of the incremental benefit of attaining more stringent cleanup levels compared with the incremental cost of achieving those levels.



pollutant concentrations remaining well below applicable water quality objectives. Accordingly a cleanup level based on attaining background sediment chemistry conditions may be overly stringent.

Dredging large quantities of bay sediments for the sake of attaining background sediment conditions may not be the best solution for San Diego Bay, considering environmental, social and economic concerns. The shipyards will likely use dredging to remove contaminated sediments from San Diego Bay. Dredging to attain background sediment conditions will require the removal of large quantities of sediment. Dredging can have its own adverse environmental effects including benthic disturbances, water quality degradation and contamination issues arising from disposal of dredged materials. The ecological risks associated with dredging to attain background sediment conditions must be balanced against the threat to beneficial uses associated with the pollutant in the sediment. This balancing could lead to a conclusion that cleanup to background sediment conditions should not be the automatic default, nor should Resolution 92-49 be used to compel such cleanup levels.

Cleanup of these contaminated sediment sites is also very expensive and costs increase rapidly with the level of effort at NASSCO and Southwest Marine the cost to dredge to attain background sediment conditions could reach into the tens of millions of dollars. It is important that the Regional Board designate cleanup levels which strike a proper balance between the need to address potential public health risks and adverse water quality effects with the high cost of the cleanup.

cc: Craig Wilson, Office of Chief Counsel, SWRCB  
John Minan, Chair, San Diego RWQCB  
David Barker, San Diego RWQCB

